CLAIMS

We claim:

1. A fuel cell system equipped with a fuel cell for generating power by circulating a fuel gas, said system comprising:

a fuel gas supply source for supplying said fuel gas;

a circulation route for circulating the fuel gas supplied to said fuel cell;

drive means provided in said circulation route and serving to circulate said fuel gas; and

pressure regulating means provided between said fuel gas supply source and said circulation route and serving to regulate a pressure of the fuel gas in said circulation route to a predetermined pressure, wherein

said pressure regulating means raises the pressure of the fuel gas in said circulation route according to the increase in a required gas quantity that is required in said fuel cell.

2. A fuel cell system comprising:

a fuel cell for generating power by circulating a fuel gas;

a fuel gas supply source for supplying said fuel gas to said fuel cell;

a circulation route for circulating the fuel gas supplied to said fuel cell;

a drive device provided in said circulation route and serving to circulate said fuel gas; and

a pressure regulating device provided between said fuel gas supply source and said circulation route and serving to regulate the pressure of the fuel gas in the circulation route to a predetermined pressure, wherein

the pressure regulating device raises the pressure of the fuel gas in said circulation route according to the increase in the required gas quantity that is required in said fuel cell and also inhibits the drive quantity in said drive device.

3. The fuel cell system according to claim 1 or 2, wherein in a region in which at least the required gas quantity is higher than a standard value, the pressure regulation quantity of said pressure regulating means is varied correspondingly to a variation of said required gas quantity.

4. The fuel cell system according to claim 1 or 2, wherein in a region where said required gas quantity is higher than a standard value, the variation rate of the drive quantity of said drive means is reduced with respect to that of the region where said required gas quantity is lower than said standard value.

5. The fuel cell system according to claim 1 or 2, wherein in a region where said required gas quantity is lower than the standard value, the pressure regulation quantity of said pressure regulating means is maintained equal to or less than a constant value.

6. The fuel cell system according to claim 1 or 2, wherein the drive means is controlled based on said required gas quantity and a measured value of pressure inside said circulation route.

7. A drive method for a fuel cell system equipped with a fuel cell for generating power by circulating a fuel gas, the drive method comprising the steps of:

estimating a required gas quantity required in said fuel cell; and

increasing a pressure of the fuel gas in a circulation route, in which the fuel gas supplied to said fuel cell is circulated, according to an increase in the estimated required gas quantity.